

What is claimed as invention is:

1. A clad tube for nuclear fuel made by the process comprising steps:

a. placing a graphite mandrel in an electro deposit chamber as the cathode material;

b. placing rhenium stock in the electro deposit chamber as the anode material;

c. filling the electro deposit chamber with chloride electrolyte;

d. closing the electro deposit chamber;

e. heating the electrolyte bath to a desired temperature;

f. depositing rhenium on the mandrel to a desired thickness by applying current and voltage across the anode and cathode;

g. machining the rhenium on the mandrel to a final desired close tolerance dimension;

h. placing niobium alloy stock in the electro deposit chamber as the anode;

i. heating the electrolyte bath to a desired temperature;

j. depositing niobium alloy over the rhenium to a desired thickness by applying current and voltage across the anode and cathode;

k. removing the mandrel from the electro deposit chamber and grinding the formed tube to a desired outer diameter; and

l. removing the formed tube from the mandrel.

2. The process of claim 1, wherein the electrolyte bath is heated to a temperature less than eight hundred degrees centigrade.

3. The process of claim 1, wherein the mandrel is lowered into the electrolyte bath below the level of the rhenium deposited on the mandrel prior to the step of depositing niobium alloy over the rhenium.